AND-G420N1

Networking Microbox powered by AMD GX-420MC with 6 x GbE LAN (2-pair Bypass)

User Manual

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Purpose

This document is intended to provide the information about the features and use of the product.

Audience

The intended audiences are technical personnel, not for general audiences.

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5. FAQ 29

Q 1. Where can I find the serial number of this product? 29

Q 2. What if the Fedora 20 Workstation cannot be installed normally? 29

1. System Introduction

Acrosser's Microbox Networking device AND-G420N1 is powered by AMD® G-Series GX-420MC, 4-core@2.0GHz, 2MB L2 cache, DDR3-1600 memory (up to16GB). The CPU supports AES (Advanced Encryption Standard) technology, making it an ideal choice for network security vendors, encryption faster and more secured.

With a remarkable 6x Intel® GbE LAN Controller, AND-G420N1 offers the utmost compatibility & connectivity with a mini form factor. Besides, the model can handle 2-pair LAN bypass configured via software APIs or hardware jumpers. AND-G420N1 also provides luxurious sets of I/O, including 2x USB3.0 ports, 1x SATA-II port, 1x Console port and pin headers for 2x USB2.0 & GPIOs (4-In, 4-Out) internally.

1.1. Specifications

System

CPU	• AMD GX-420MC, 4-Core@2.0GHz, 2MB L2 Cache
Memory	• Support DDR3 Only, (Max. capacity: 16GB) • 2x 204-pin SO-DIMM sockets (non-ECC) • 2G x1, 2G x2, 4G x1 (option)

Storage

SATA	• 1x SATA II connector
CF	• 1x CF card, support UDMA Type-II socket
HDD	• 1x Swappable 2.5” HDD Bay on top cover

Communication and I/O

Ethernet	• 6x PCIe x1 Intel GbE chip via RJ-45 Connector • 10/100/1000Mbps
LAN Bypass	• 2-pair LAN Bypass (LAN1/LAN2, LAN3/LAN4) • No wake-up feature
USB	• 2x USB 3.0 (external) • 2x USB 2.0 (internal) pin header
Serial Ports	• 1x RS-232
GPIO	• 4x GPI • 4x GPO

Other Features

Watchdog Timer	• Software Programmable: 0~255 seconds. (0=Disable Timer)
Battery	• Lithium Battery, 3V 220mAH (CR2032)
Hardware Monitoring	• CPU Voltage • CPU Temperature • System Temperature • RTC Battery Voltage • Fan Speed

Power Requirement

Power Supply	• DC in 12V / 60W adapter

Software

OS Support	• Ubuntu 14.04 (32/64-bit), Linux Kernel 3.13 (32/64-bit) • Fedora 20 (32/64-bit), Linux Kernel 3.11 (32/64-bit) • Text Mode Only

Mechanical & Environment

Thermal	• CPU: Fanless • System Fan
Dimension	• 242 x 149.5 x 44 mm (W x D x H)
Operating Temperature	• 0 ~ 40°C
Storage Temperature	• -20 ~ 80°C
Relative Humidity	• 0 to 90% @ 40°C, non-condensing

EMC & Safety

EMC	• CE, FCC Class A

1.3. Packing List

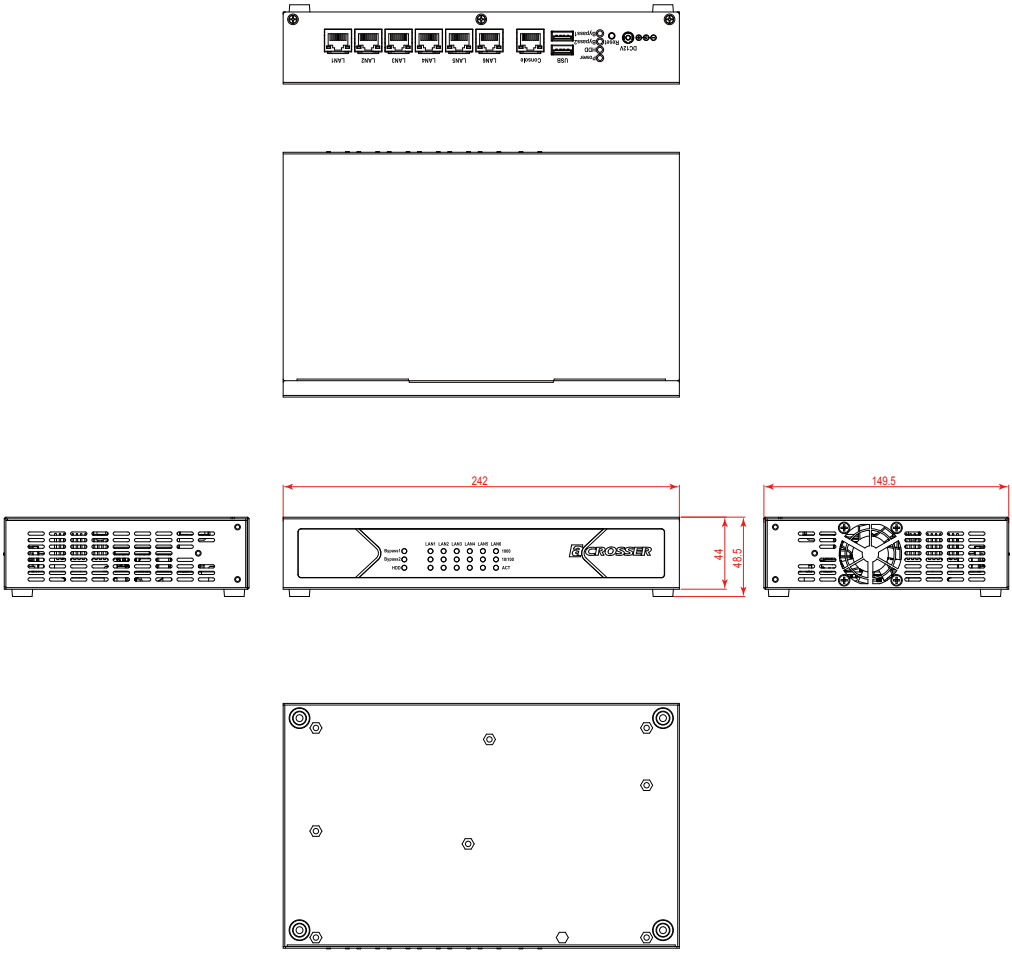
Check if the following items are included in the package.

- ☐ 1x AND-G420N1 System
- ☐ 1x Quick Manual
- ☐ 1x Driver CD
- ☐ 1x Console Cable
- ☐ 1x Power Adapter
- ☐ 1x Power Cord
- ☐ 1x Screw Pack
- ☐ 1x Pull-tab Opener

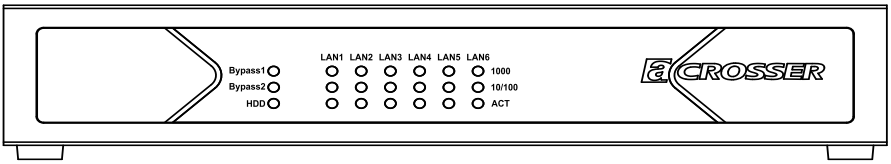
1.4. System Dissection

1.4.1. Dimensions

(Unit: mm)



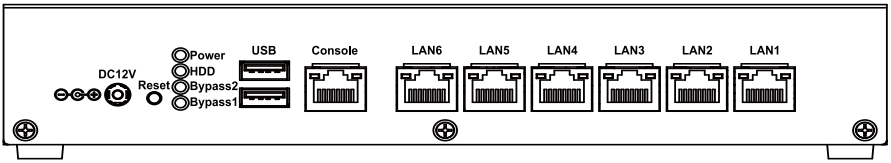
1.4.2. Front I/O Panel



- **LED Indicators**

LED	Light	Status
Bypass 1	Green	Bypass 1 function enabled
Bypass 2	Green	Bypass 2 function enabled
HDD	Yellow	HDD active
LAN1 ~ LAN6	Green	On: 1000Mbps Off: No link
	Green	On: 100Mbps Off: 10Mbps
	Yellow	Blinking: LAN active On: LAN not active

1.4.3. Rear I/O Panel



- **DC12V**

  DC 12V power inlet.

- **Reset**

  System reset button. Use a stick of less than 4mm in diameter to push this button.

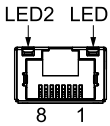
- **LED Indicators**

LED	Light	Status
POWER	Green	Power turned on
HDD	Green	HDD active
Bypass2	Yellow	LAN 3 & LAN 4 bypass function enabled
Bypass1	Yellow	LAN 1 & LAN 2 bypass function enabled

- **USB**

  External USB 3.0 connectors.

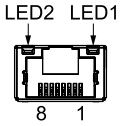
- **Console**



Pin #	Signal	Pin #	Signal
1	RTS	5	GND
2	DTR	6	SIN
3	SOUT	7	DSR
4	GND	8	CTS

- **LAN1 ~ LAN6**

  RJ-45 Ethernet Connectors.

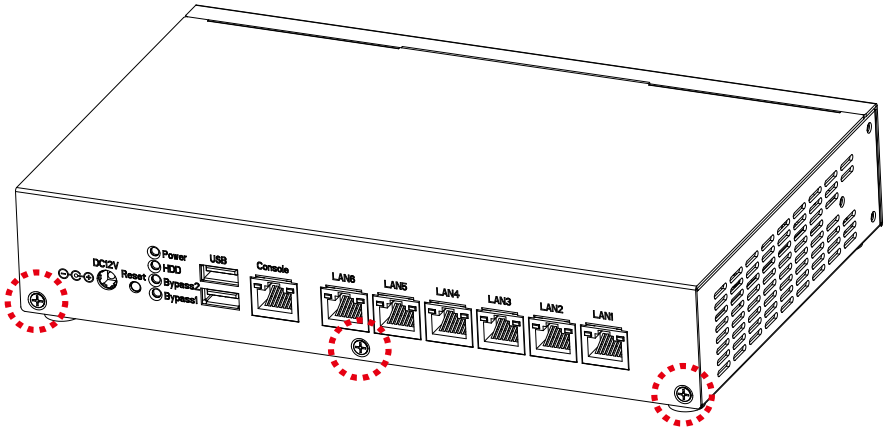


LED	Light	Status
LED1	Off	10Mbps
	Green	100Mbps
	Orange	1000Mbps
LED2	Yellow	Link/Active
	Off	LAN Off

2. Assembly/Disassembly Procedures

2.1. Open the Chassis Cover

Step 1: Unscrew the three screws that fixed the chassis top cover.

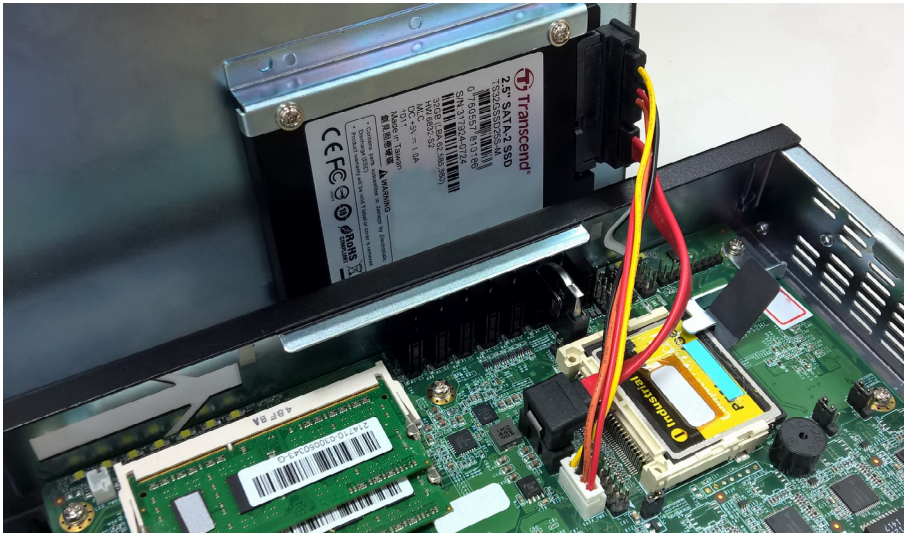


Step 2: Open up the top cover.

2.2. SATA HDD Installation

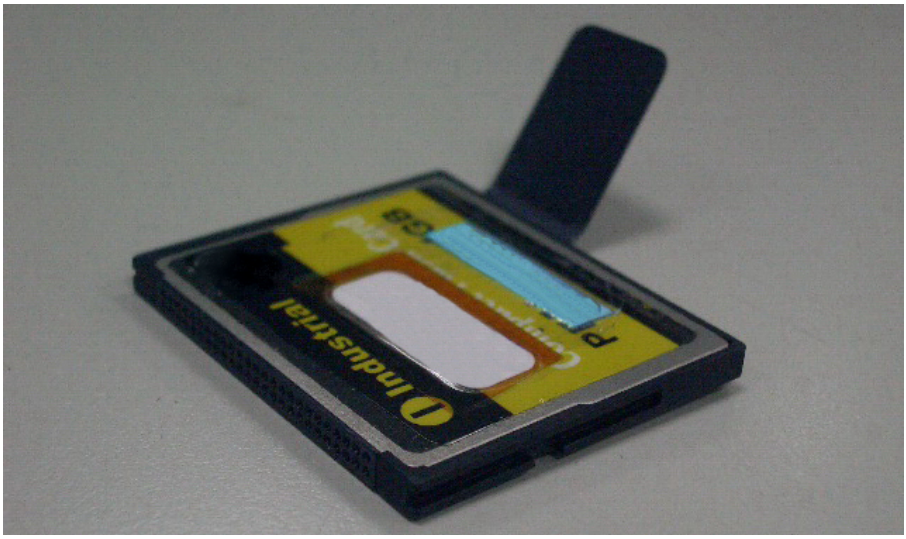
Step 1: Use the four screws provided in the package to install your SATA hard disk into the bracket located at the inner side of the top cover.

Step 2: Firmly connect the SATA power and signal cable.



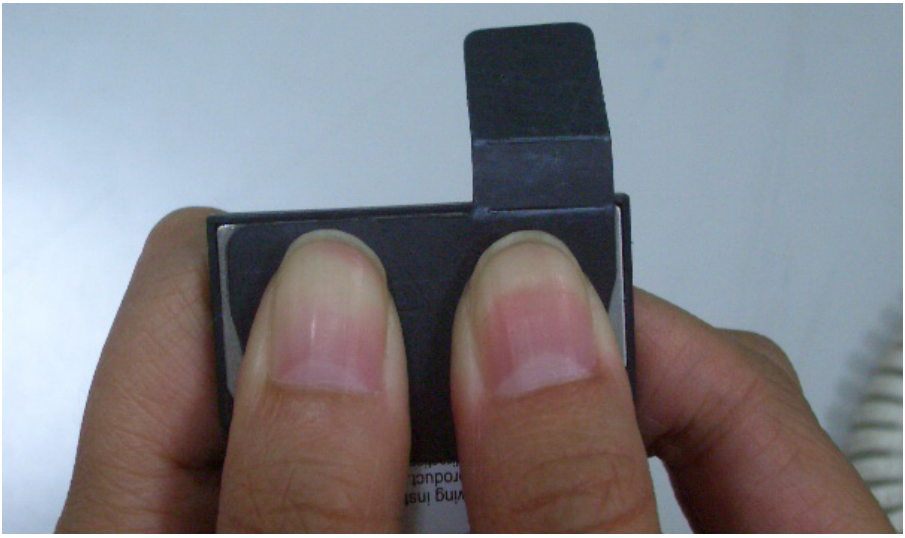
2.3. CF Card Installation

Step 1: Before inserting your CF card, you will have to stick a customized pull-tab opener to help detaching the CF card from its card holder.



Step 2: Peel off the protective sheet on the pull-tab opener, and stick it on your CF card as shown below.

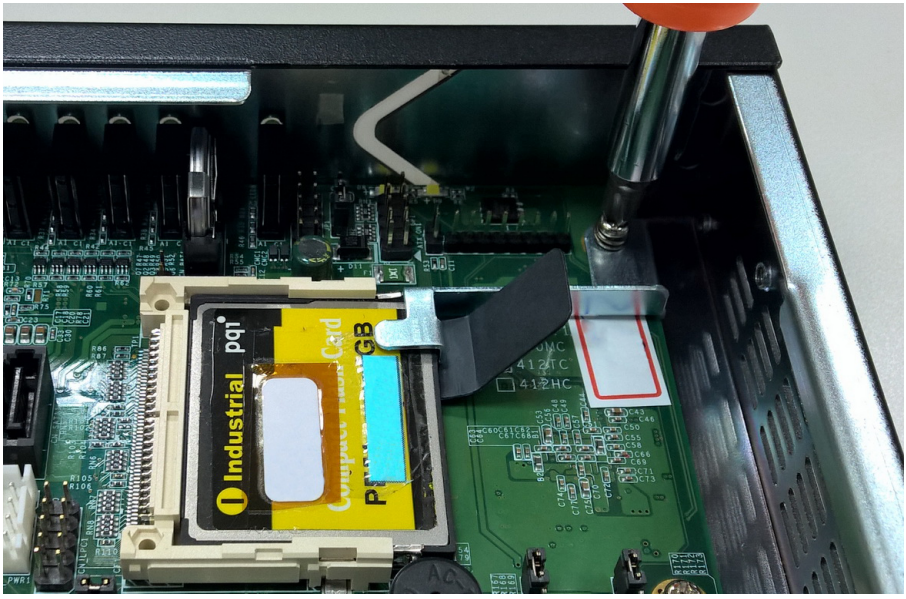
Step 3: Press the pull-tab opener to make it stick firmly onto the CF card.



Step 4: Unscrew and remove the card stopper. Insert the CF card into the card holder.

Step 5: Push the CF card all the way into the card holder.

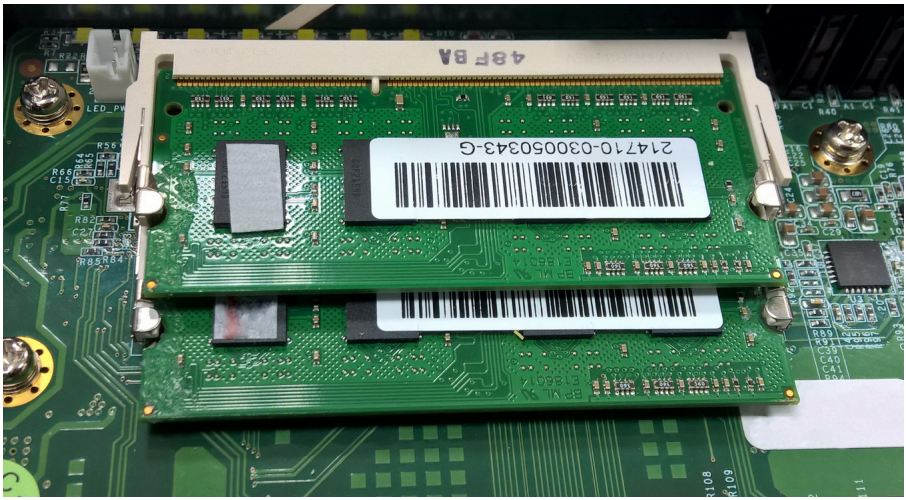
Step 6: Lock the card stopper into position.



2.4. Memory Module Installation

Step 1: Align the notch key on the memory module with the one on the socket. Insert the first memory module into the socket.

Step 2: Align the notch key on the memory module with the one on the socket. Insert the second memory module into the socket.



3. BIOS Settings

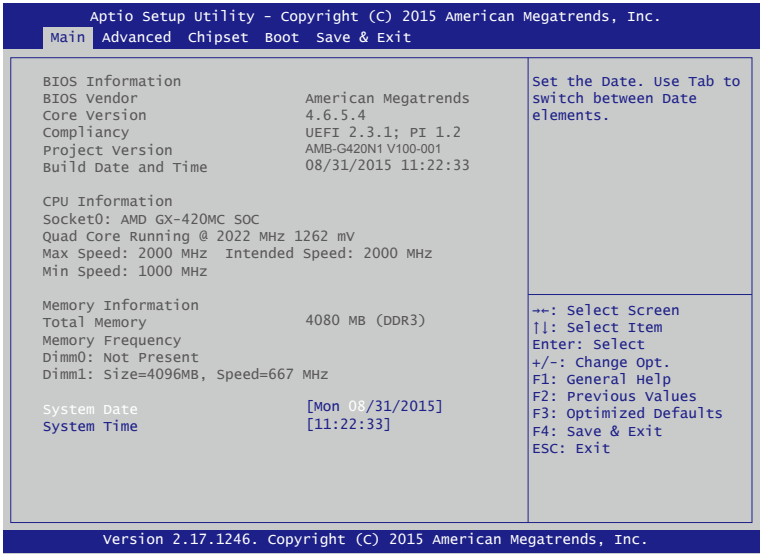
This chapter describes the BIOS menu displays and explains how to perform common tasks needed to get the system up and running. It also gives detailed explanation of the elements found in each of the BIOS menus. The following topics are covered:

- **Main Setup**
- **Advanced Setup**
- **Chipset Setup**
- **Boot Setup**
- **Save & Exit Setup**

Once you enter the AMI BIOS™ CMOS Setup Utility, the Main Menu will appear on the screen. Use the arrow keys to highlight the item and then use the <Pg Up> <Pg Dn> keys to select the value you want in each item.

3.1. Main Setup

The BIOS setup main menu includes some options. Use the [Up/Down] arrow key to highlight the option that you wish to modify, and then press the [Enter] key to select the item and configure the functions.


Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.
Main Advanced Chipset Boot Save & Exit
BIOS Information
BIOS Vendor American Megatrends
Core Version 4.6.5.4
Compliancy UEFI 2.3.1; PI 1.2
Project Version AMB-G420N1 V100-001
Build Date and Time 08/31/2015 11:22:33
CPU Information
Socket0: AMD GX-420MC SOC
Quad Core Running @ 2022 MHz 1262 mV
Max Speed: 2000 MHz Intended Speed: 2000 MHz
Min Speed: 1000 MHz
Memory Information
Total Memory 4080 MB (DDR3)
Memory Frequency
Dimm0: Not Present
Dimm1: Size=4096MB, Speed=667 MHz
System Date [Mon 08/31/2015]
System Time [11:22:33]
Set the Date. Use Tab to switch between Date elements.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1246. Copyright (C) 2015 American Megatrends, Inc.

Note: *Listed at the bottom of the menu are the control keys. If you need any help with the item fields, you can press <**F1**> key, and it will display the relevant information.*

- **System Date**
  This option allows user to set the date on the system real-time clock RTC. Use your keyboard to navigate to the month, day, or year and type in the correct numeric value.

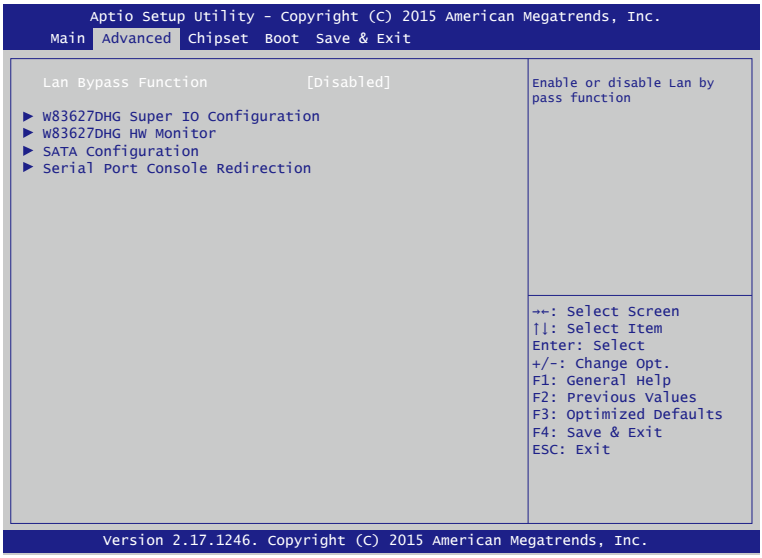
Note: *The Day option automatically changes when you set the Date option.*

- **System Time**
  This option allows user to set the time on the RTC. Use your keyboard to navigate to the hour, minute, or second and type in the correct numeric value.

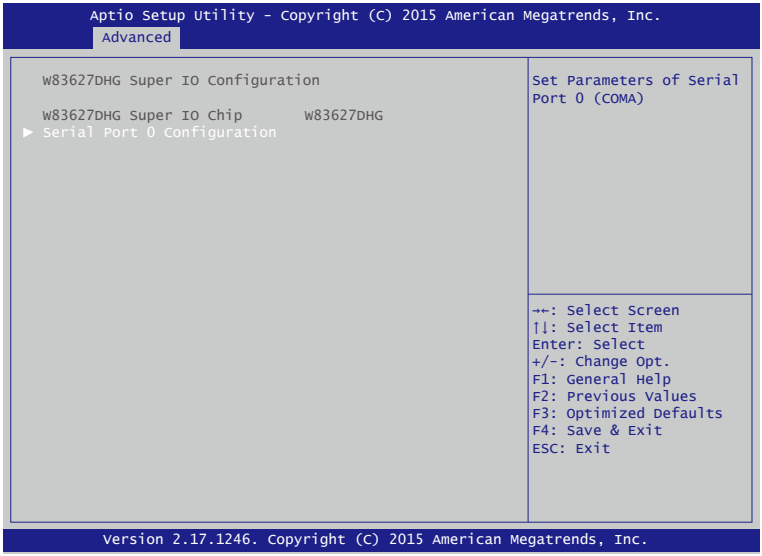
Note: *The time is in 24-hour format. For example, 5:30 A.M. appears as 05:30:00, and 5:30 P.M. as 17:30:00.*

3.2. Advanced Setup

Select the Advanced menu item from the Aptio Setup Utility to enter the Advanced BIOS Setup screen. You can select any item in the left frame of the screen and press <Enter> key to enter its sub-menu and access its parameters.

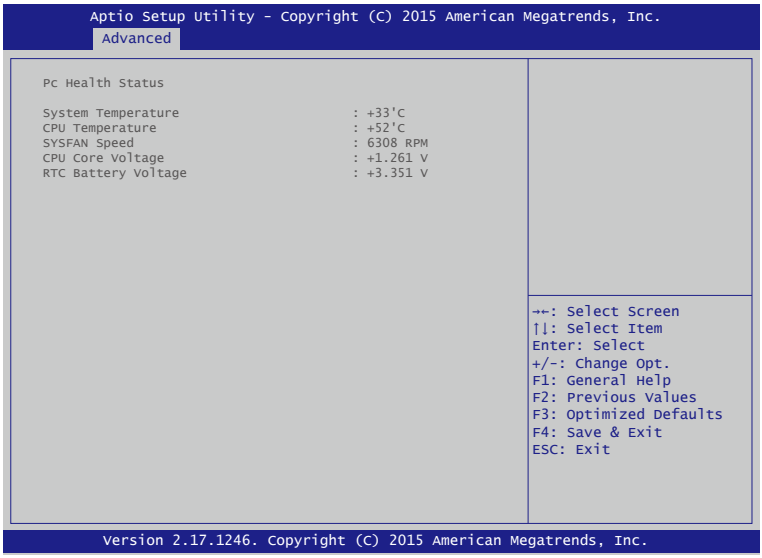

Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.
Main Advanced Chipset Boot Save & Exit
Lan Bypass Function [Disabled]
▶ W83627DHG Super IO Configuration
▶ W83627DHG HW Monitor
▶ SATA Configuration
▶ Serial Port Console Redirection
Enable or disable Lan by pass function
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1246. Copyright (C) 2015 American Megatrends, Inc.

3.2.1. W83627DHG Super IO Configuration


Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.
Advanced
W83627DHG Super IO Configuration
W83627DHG Super IO Chip W83627DHG
▶ Serial Port 0 Configuration
Set Parameters of Serial Port 0 (COMA)
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1246. Copyright (C) 2015 American Megatrends, Inc.

- **Serial Port 0 Configuration**
  Enable or disable serial port 0 (COMA).

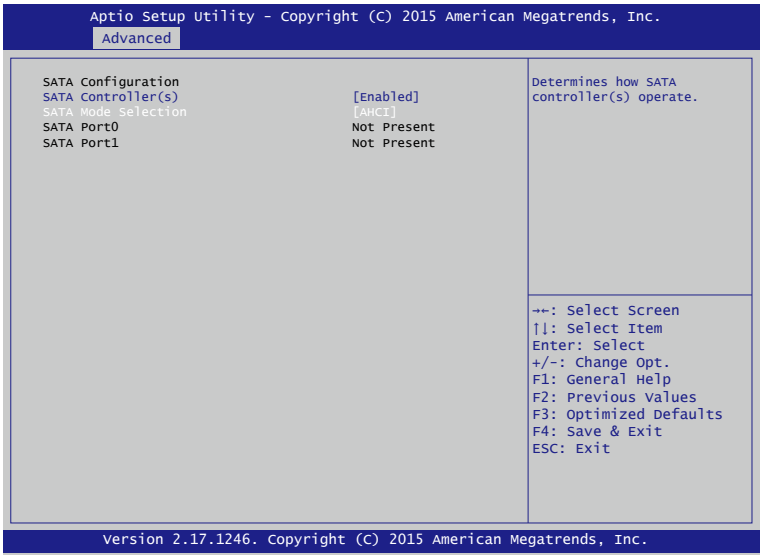
3.2.2. W83627DHG HW Monitor


Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.
Advanced
Pc Health Status
System Temperature : +33'C
CPU Temperature : +52'C
SYSFAN Speed : 6308 RPM
CPU Core Voltage : +1.261 V
RTC Battery Voltage : +3.351 V
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1246. Copyright (C) 2015 American Megatrends, Inc.

- **System Temperature**
  This item displays the system temperature.
- **CPU Temperature**
  This item displays the CPU temperature.
- **SYSFAN Speed**
  This item displays the system fan speed.
- **CPU Core Voltage**
  This item displays the VCORE voltage level.
- **RTC Battery Voltage**
  This item displays the battery voltage level.

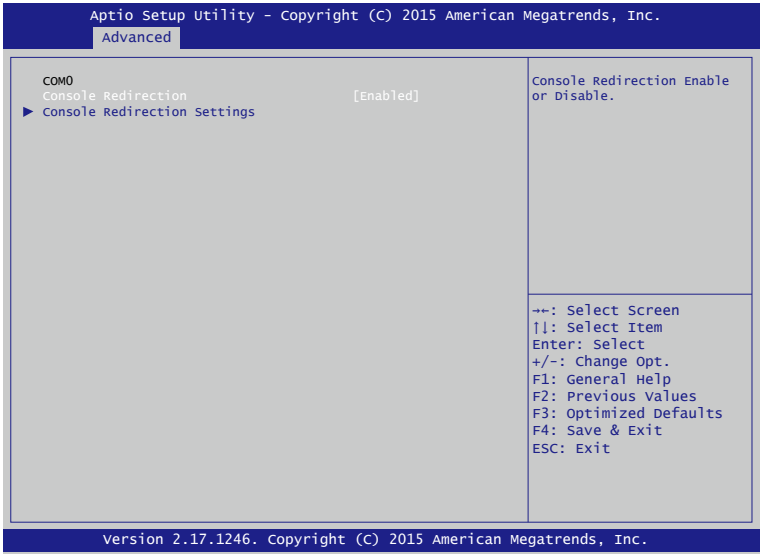
3.2.3. SATA Configuration

This option allows you to view and configure the SATA settings.



- **SATA Controller(s)**
  Enable or disable SATA device.
- **SATA Mode Selection**
  Determines how SATA controller(s) operate.
- **SATA Port0 ~ SATA Port1**
  Enable or disable serial port.

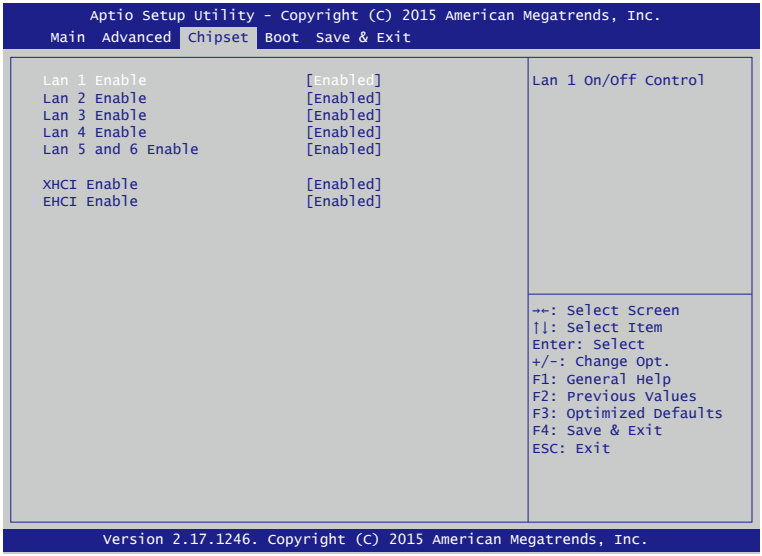
3.2.4. Serial Port Console Redirection



- **Console Redirection**
  Enable or disable Console Redirection.
- **Console Redirection Settings**
  This settings specify how the host computer and the remote computer will exchange data. Both computers should have the same or compatible settings.

3.3. Chipset Setup

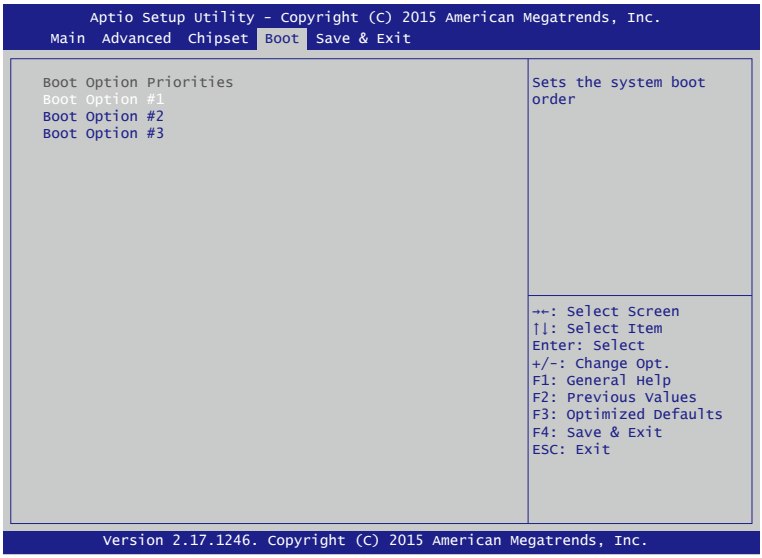
Select the Chipset menu item from the Aptio Setup Utility to enter the Chipset Configuration Setup screen. You can select any item in the left frame of the screen and press <Enter> key to enter its sub-menu and access its parameters.


Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.
Main Advanced Chipset Boot Save & Exit
Lan 1 Enable [Enabled]
Lan 2 Enable [Enabled]
Lan 3 Enable [Enabled]
Lan 4 Enable [Enabled]
Lan 5 and 6 Enable [Enabled]
XHCI Enable [Enabled]
EHCI Enable [Enabled]
Lan 1 On/Off Control
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1246. Copyright (C) 2015 American Megatrends, Inc.

- **Lan 1 Enable**
  Enable or disable system LAN1 port.
- **Lan 2 Enable**
  Enable or disable system LAN2 port.
- **Lan 3 Enable**
  Enable or disable system LAN3 port.
- **Lan 4 Enable**
  Enable or disable system LAN4 port.
- **Lan 5 and 6 Enable**
  Enable or disable system LAN5 and LAN6 ports.
- **XHCI Enable**
  Control the USB XHCI (USB 3.0) function.
- **EHCI Enable**
  Control the USB EHCI (USB 2.0) function.

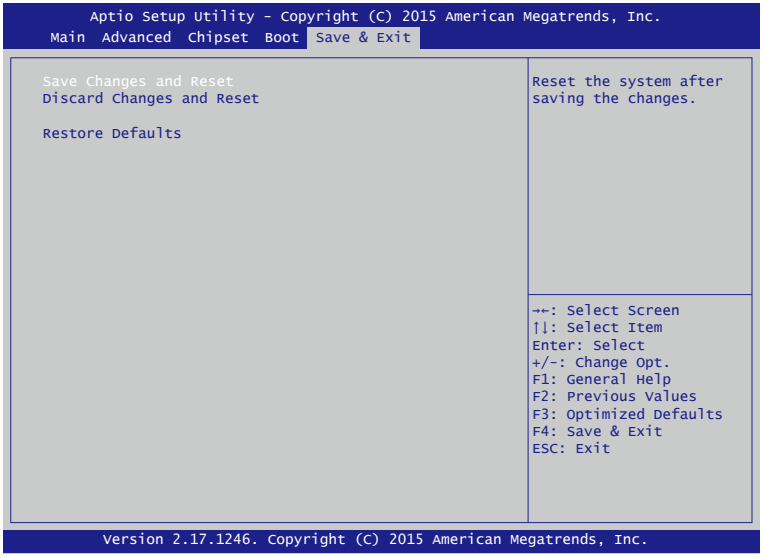
3.4. Boot Setup

Choose boot priority.


Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.
Main Advanced Chipset Boot Save & Exit
Boot Option Priorities
Boot Option #1
Boot Option #2
Boot Option #3
Sets the system boot order
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1246. Copyright (C) 2015 American Megatrends, Inc.

- **Boot Option #1 ~ #3**
  Sets the system boot order.

3.5. Save & Exit Setup


Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.
Main Advanced Chipset Boot Save & Exit
Save Changes and Reset
Discard Changes and Reset
Restore Defaults
Reset the system after saving the changes.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
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- **Save Changes and Reset**
  Reset the system setup after saving the changes.
- **Discard Changes and Reset**
  Reset the system setup without saving any changes.
- **Restore Defaults**
  Restore/Load default values for all the setup options.

4. Software Installation and Programming Guide

4.1. Introduction

Acrosser provides AND-G420N1 APIs for GPIO, Watchdog, and LAN Bypass. All APIs are provided in 'Libw83627.a and Libw83627.so. Users can use these files to program its application lib_init() API before using any other APIs. And, users need to call lib_close() to finish APIs, or to use maintest execution file to control GPIO, Watchdog, and LAN Bypass.

4.1.1. GPIO

This model provides a GPIO interface. Users can use the GPIO APIs to configure and to access the GPIO interface.

4.1.2. Watchdog

This model provides a Watchdog timer. Users can use the Watchdog APIs to configure and to access the Watchdog timer. The Watchdog timer can be set to 1~255 seconds. Setting the timer to zero disables the timer. The remaining seconds of the timer to reboot can be read from the timer.

4.1.3. LAN Bypass

This model provides two pairs of LAN ports to implement the bypass function. Users can invoke the LAN Bypass APIs to control the bypass states of the LAN ports.

4.2. File Descriptions

4.2.1. GPIO/Watchdog/LAN Bypass

1. Libw83627.a

The static library of the GPIO, Watchdog, and LAN Bypass APIs for accessing the SuperIO.

2. Libw83627.h

This file includes the declarations of the APIs and macro definitions.

3. maintest

The execution file of the utility.

4. Libw83627.so

The dynmic library of the GPIO, Watchdog, and LAN Bypass APIs for accessing the SuperIO.

4.3. API List and Descriptions

4.3.1. GPIO

Syntax:	Get_gpi_status(int pin)
Description:	Get the status of GPIO input pins.
Parameters:	This function takes an Integer variable as the parameter. The pin0 ~ pin3 is the status of the input pins.
Return Value:	1: HIGH, 0: LOW.

Syntax:	Get_gpo_status(int pin)
Description:	Get the status of GPIO output pins.
Parameters:	This function takes an integer variable as the parameter. The pin0 ~ pin3 is the status of the output pins.
Return Value:	1: HIGH, 0: LOW.

Syntax:	Set_gpo(int pin, int value)
Description:	Set the status of GPIO Output value.
Parameters:	Set value 0 is Low, 1 is High
Return Value:	If the function sets the values successfully, it returns 0 or -1, any other returned value stands for error.

4.3.2. Watchdog

Syntax:	Void wdt_start(int _timevalue)
Description:	This function reads the value of the watchdog time counter.
Parameters:	The parameter '_timevalue' is the value to set to watchdog timer register. The range is 1 ~ 255.
Return Value:	None.

Syntax:	Int get_wdt_count(void)
Description:	This function get the watchdog timer register.
Parameters:	None.
Return Value:	This function returns the value of the time counter.

Syntax:	Void wdt_stop(void)
Description:	This function sets the watchdog timer stop
Parameters:	None.
Return Value:	None.

4.3.3. LAN Bypass

Syntax:	void enableWtd(void)
Description:	Enable Watchdog Timer. (This timer is different from the System Watchdog timer).
Parameters:	None.
Return Value:	None.

Syntax:	void disableWtd(void)
Description:	Disable Watchdog Timer.
Parameters:	None.
Return Value:	None.

Syntax:	void reloadWtd(void)
Description:	Reload Watchdog Timer.
Parameters:	None.
Return Value:	None.

Syntax:	void forceNormal(void)
Description:	Force the port to become normal state.
Parameters:	None.
Return Value:	None.

Syntax:	void forceBypass(void)
Description:	Force the port to become bypass state.
Parameters:	None.
Return Value:	None.

Syntax:	void setWtd4(void)
Description:	Set the watchdog timer to 4 seconds.
Parameters:	None.
Return Value:	None.

Syntax:	void setWtd8(void)
Description:	Set the watchdog timer to 8 seconds.
Parameters:	None.
Return Value:	None.

Syntax:	void setWtd16(void)
Description:	Set the watchdog timer to 16 seconds.
Parameters:	None.
Return Value:	None.

Syntax:	void setWdt32(void)
Description:	Set the watchdog timer to 32 seconds.
Parameters:	None.
Return Value:	None.

5. FAQ

Q 1. Where can I find the serial number of this product?

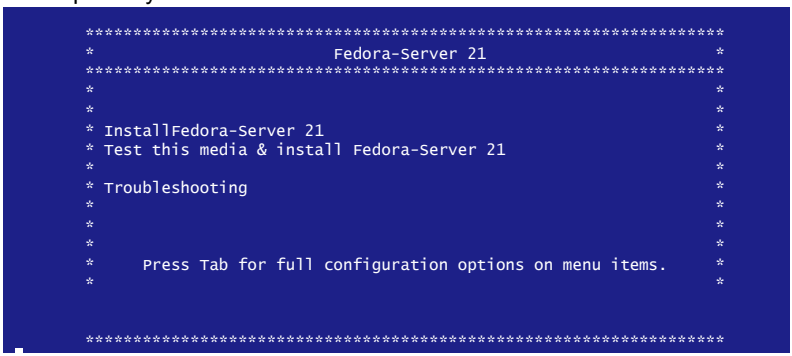
- The serial number (S/N) is a label printed with alpha-numeric character. You can find the S/N label on the bottom of this product or on its packing box.

Q 2. What if the Fedora 20 Workstation cannot be installed normally?

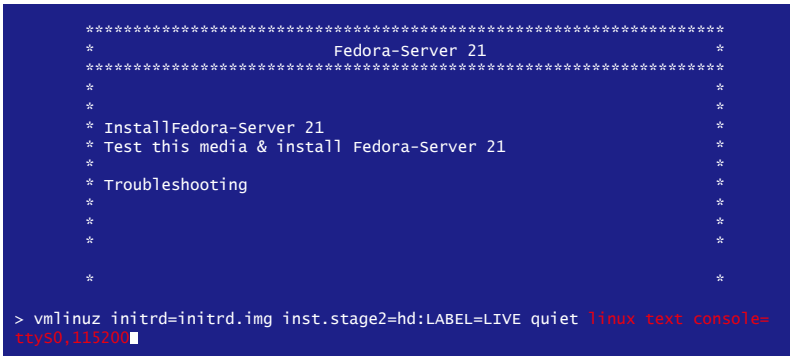
- Please follow these steps to install ***Fedora 20 Workstation***.

  1. Get ready with the files ***Fedora 21 32/64 server iso*** and ***Fedora 20 32/64 DVD iso***.
  2. Install **liveusb-creator** tool.
     a. To install under Ubuntu OS, you may refer to the description detailed on https://ifireball.wordpress.com/2011/10/14/running-fedoras-liveusb-creator-on-ubuntu/
     b. To install under Fedora OS, you may use the yum install liveusb-creator.
  3. Create a bootable USB stick in "**ext3**" format.
  4. Run the **liveusb-creator**, exract the ***Fedora 21 32/64 server iso*** into the USB stick.
  5. Copy the ***Fedora 20 32/64 dvd iso*** into the USB stick.
  6. Start installing Fedora 20.

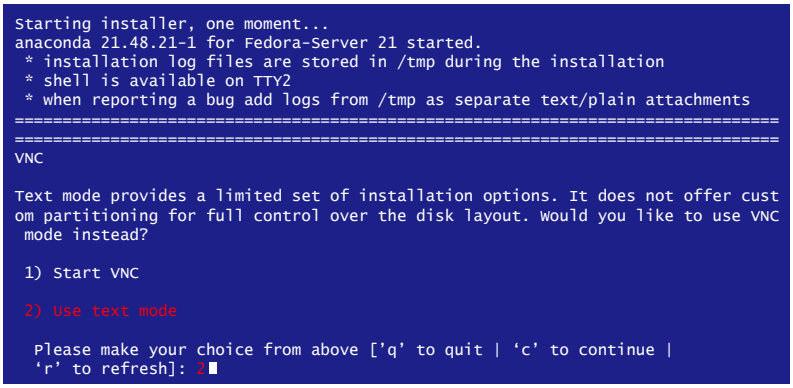
Step 1: Boot up the system with the bootable USB stick.


Fedora-Server 21
InstallFedora-Server 21
Test this media & install Fedora-Server 21
Troubleshooting
Press Tab for full configuration options on menu items.

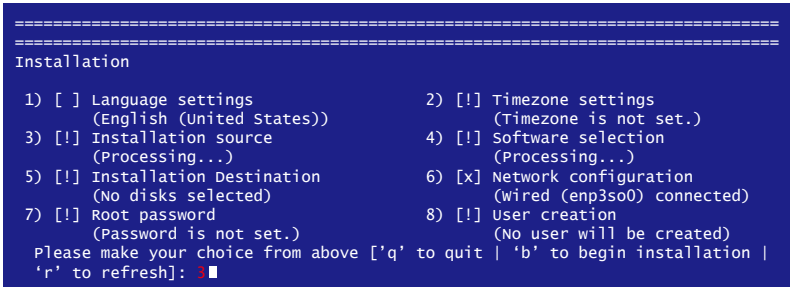
Step 2: Press Tab key. Add a string `linux text console=ttyS0,115200` behind `quiet`.


Fedora-Server 21
InstallFedora-Server 21
Test this media & install Fedora-Server 21
Troubleshooting
> vmlinuz initrd=initrd.img inst.stage2=hd:LABEL=LIVE quiet linux text console=ttyS0,115200

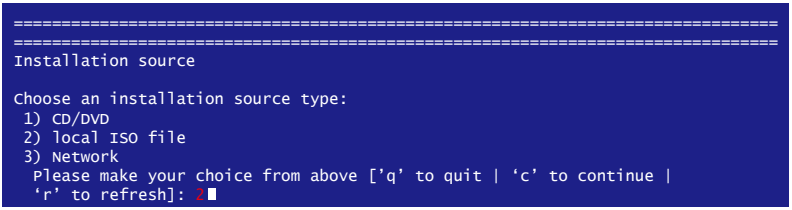
Step 3: Select `2) Use text mode`.


Starting installer, one moment...
anaconda 21.48.21-1 for Fedora-Server 21 started.
* installation log files are stored in /tmp during the installation
* shell is available on TTY2
* when reporting a bug add logs from /tmp as separate text/plain attachments
VNC
Text mode provides a limited set of installation options. It does not offer custom partitioning for full control over the disk layout. Would you like to use VNC mode instead?
1) Start VNC
2) Use text mode
Please make your choice from above ['q' to quit | 'c' to continue | 'r' to refresh]: 2

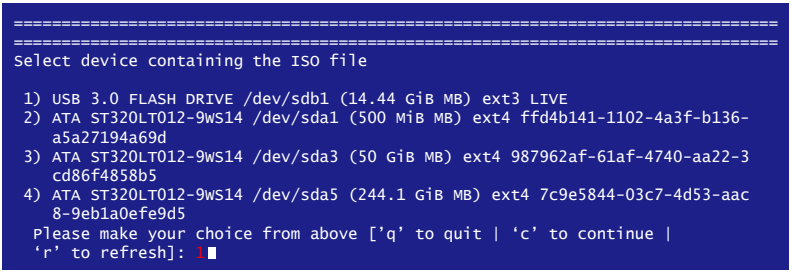
Step 4: Select `Item 3 Installation source`.


Installation
1) [ ] Language settings (English (United States))
2) [!] Timezone settings (Timezone is not set.)
3) [!] Installation source (Processing...)
4) [!] Software selection (Processing...)
5) [!] Installation Destination (No disks selected)
6) [x] Network configuration (Wired (enp3s0) connected)
7) [!] Root password (Password is not set.)
8) [!] User creation (No user will be created)
Please make your choice from above ['q' to quit | 'b' to begin installation | 'r' to refresh]: 3

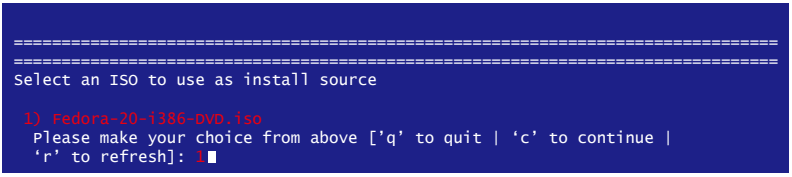
Step 5: Select Item 2 local ISO file.


Installation source
Choose an installation source type:
1) CD/DVD
2) local ISO file
3) Network
Please make your choice from above ['q' to quit | 'c' to continue |
'r' to refresh]: 2

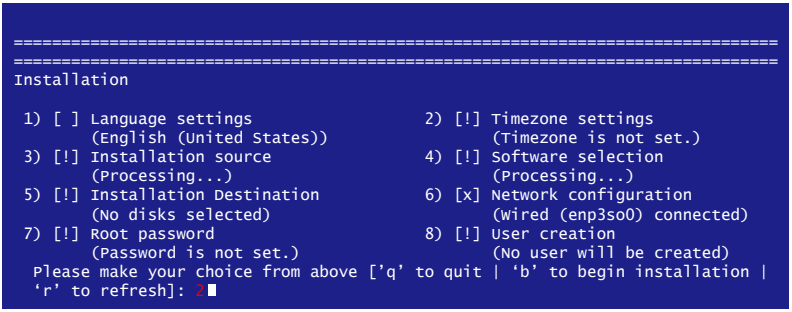
Step 6: Select Item 1 USB flash drive.


Select device containing the ISO file
1) USB 3.0 FLASH DRIVE /dev/sdb1 (14.44 GiB MB) ext3 LIVE
2) ATA ST320LT012-9WS14 /dev/sda1 (500 MiB MB) ext4 ffd4b141-1102-4a3f-b136-a5a27194a69d
3) ATA ST320LT012-9WS14 /dev/sda3 (50 GiB MB) ext4 987962af-61af-4740-aa22-3cd86f4858b5
4) ATA ST320LT012-9WS14 /dev/sda5 (244.1 GiB MB) ext4 7c9e5844-03c7-4d53-aac8-9eb1a0efe9d5
Please make your choice from above ['q' to quit | 'c' to continue |
'r' to refresh]: 1

Step 7: Select Item 1 Fedora-20-i386-DVD.iso.


Select an ISO to use as install source
1) Fedora-20-i386-DVD.iso
Please make your choice from above ['q' to quit | 'c' to continue |
'r' to refresh]: 1

Step 8: Select Item 2 Timezone settings.


Installation
1) [ ] Language settings
(English (United States))
2) [!] Timezone settings
(Timezone is not set.)
3) [!] Installation source
(Processing...)
4) [!] Software selection
(Processing...)
5) [!] Installation Destination
(No disks selected)
6) [x] Network configuration
(Wired (enp3s0) connected)
7) [!] Root password
(Password is not set.)
8) [!] User creation
(No user will be created)
Please make your choice from above ['q' to quit | 'b' to begin installation |
'r' to refresh]: 2

Step 9: Select the timezone of your region.

```
================================================================================
================================================================================
Timezone setting

Available regions
 1) Africa                6) Atlantic              10) Pacific
 2) America               7) Aystralia             11) US
 3) Antarcatica           8) Europe                12) Etc
 4) Artic                 9) Indian
 5) Asia
Please select the timezone.
Use numbers or type names directly [b to region list, q to quit]: 5
```

Step 10: Select the city your region.

```
 1) Aden                  28) Irkutsk              54) Pyongyang
 2) Almaty                29) Jakarta              55) Qatar
 3) Amman                 30) Jayapura             56) Qyzylorda
 4) Anadyr                31) Jerusalem            57) Rangoon
 5) Aqatau                32) Kabul                58) Riyadh
 6) Aqtobe                33) Kamchatka            59) Sakhalin
 7) Ashgabat              34) Karachi              60) Samarakand

25) Ho_Chi_Minh           52) Phnom_Penh           78) Yerevan
26) Hong_Kong             53) Pontianak
27) Hovd
Please select the timezone.
Use numbers or type names directly [b to region list, q to quit]: 65
```

Step 11: Select Item 4 Software selection.

```
================================================================================
================================================================================
Installation

 1) [ ] Language settings                 2) [x] Timezone settings
        (English (United States))                (Asia/Taipei timezone)
 3) [x] Installation source               4) [!] Software selection
        (Fedora-20-i386-DVD.iso)                 (GNOME Desktop)
 5) [!] Installation Destination          6) [x] Network configuration
        (No disks selected)                      (Wired (enp3s0) connected)
 7) [!] Root password                     8) [!] User creation
        (Password is not set.)                   (No user will be created)
  Please make your choice from above ['q' to quit | 'b' to begin installation |
  'r' to refresh]: 4
```

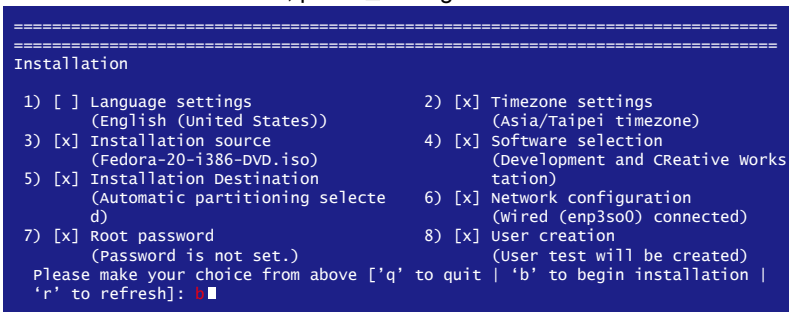
Step 12: Select Item 8 Development and Creative workstation.

```
================================================================================
================================================================================
Base environment
Software selection

Base environment

 1) [ ] GNOME Desktop                     8) [x] Development and Creative Work
 2) [ ] KDE Plasma Workspaces                    station
 3) [ ] Xfce Desktop                      9) [ ] Web Server
 4) [ ] LXDE Desktop                     10) [ ] Infrastructure Server
 5) [ ] Cinnamon Desktop                 11) [ ] Basic Desktop
 6) [ ] MATE Desktop                     12) [ ] Minimal Install
 7) [ ] Sugar Desktop Environment
  Please make your choice from above ['q' to quit | 'c' to continue |
  'r' to refresh]: 8
```

Step 13: Select the rest of the items, press b to begin installation.



Technical Support Form

We deeply appreciate your purchase of Acrosser products. Please find the "**tech_form.doc**" file in our utility CD. If you have any questions or problems about Acrosser products, please fill in the following information. We will answer your questions in the shortest time possible.

Describe Your Info and Acrosser System Info

- Your Company Name: _____
- Your Contact Info: _____ Phone Number: _____
- Your E-Mail Address: _____
- Your Company Address: _____

  _____
- Acrosser Model Name: _____
- Acrosser Serial Number: _____

Describe System Configuration

- CPU Type: _____
- Memory Size: _____
- Storage Device (e.g. HDD, CF, or SSD): _____
- Additional Peripherals (e.g. Graphic Card): _____
- Operating System & Version (e.g. Windows 7 Embedded): _____
- Special API or Driver: _____

  (If yes, please provide it for debug.)
- Running Applications: _____
- Others: _____

Describe Your Problems or Questions:

Send the above information to one of the following Acrosser contacts:

- Acrosser Local Sales Representative
- Acrosser Authorized Sales Channels
- Acrosser Inquiry --- http://www.acrosser.com/inquiry.html
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